	Application No.	**Applicant(s)**
Notice of Allowability	09/898,211	KUUKANKORPI ET AL.
	Examiner	**Art Unit**	
	Brian D. Nguyen	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *6/22/06*.

2. ☒ The allowed claim(s) is/are *4,2,3,5,11-21,6-10,22-23,27,25-26,28-36 (renumbered 1-34, respectively)*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None of the:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *20060805* .

7. ☒ Examiner's Amendment/Comment

8. ☐ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

BRIAN NGUYEN 8/5/06
PRIMARY EXAMINER

EXAMINER'S AMENDMENT

1.   An examiner's amendment to the record appears below. Should the changes and/or

additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR

1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the

payment of the issue fee.

2.   Authorization for this examiner's amendment was given in a telephone interview with

Ronald Craig Fish on 7/31/06.

3.   The application has been amended as follows:

Claim 22. (Currently Amended) A cluster of network element nodes, said cluster having
a plurality of nodes and a cluster network address common to said plurality of nodes, said
cluster further comprising:
- means for receiving data packets relating to said cluster network address,
- means for determining distribution decisions for received first data packets, a first data
packet being a data packet initiating opening of a packet data connection to said cluster
network address, according to predetermined criteria which involve a node-specific set of
hash values allocated to each of said plurality of nodes,
- means for selecting from said first data packets for each node of the network element
cluster those first data packets, which are to be processed in said node according to the
distribution decisions based on hash values calculated from the first data packets and said
node-specific set of hash values allocated to said node,
- means for maintaining node-specific lists about opened packet data connections for
which a node is responsible,
- means for selecting from received second data packets, a second data packet being a
data packet relating to an opened packet data connection specified in a node-specific list,
for each node of the network element cluster those second data packets, which relate to
opened connections on the node-specific list of said node, irrespective whether said
predetermined ~~distribution~~ criteria are updated or changed subsequent to opening said
connections on the node-specific list of said node with a result that hash values

calculated from said second packets do not fall into a node-specific set of hash values allocated to said node according to said updated or changed ~~distribution~~ criteria, and
- means for sending to each node of said network element cluster data packets selected for the node,
-and wherein entries of said list comprise timing information for determining how long the opened packet data connection is valid and said means for maintaining said list is arranged to
- add an entry representing an opened packet data connection to said list when a first data packet is selected for processing in the network element,
- update said timing information at least when a second data packet is selected, and
- remove an entry from said list, when a predefined time period from the arrival of the latest data packet relating to said entry is exceeded.

Claim 26. (Currently Amended) A network element according to claim 27, further comprising
- means for detecting a second data packet, which is a data packet relating to closing of a packet data connection,
wherein said means for maintaining said list is arranged to
~~- add an entry representing an opened packet data connection to said list when a first data packet is selected for processing in the network element, and~~
- remove an entry from said list, when a second data packet relating to closing of a packet data connection is detected.

Claim 31. (Currently Amended) A network element according to claim 30, wherein said list and said second list comprise entries corresponding to opened packet data connections and said means for maintaining said list is arranged to
- add an entry representing an opened packet data connection to said list when a first data packet or a fifth data packet is selected for processing in the network element,
~~- update said timing information at least when a second data packet is selected, and~~
~~- remove an entry from said list, when a predefined time period from the arrival of the latest data packet relating to said entry is exceeded,~~
and said means for maintaining said second list is arranged to
- add an entry representing an opened packet data connection to said second list when a third data packet or a sixth data packet is detected,

- update said timing information at least when a fourth data packet is detected, and
- remove an entry from said second list, when a predefined time period from the arrival of the latest data packet relating to said entry is exceeded.

Claim 34. (Currently Amended) A network element cluster comprising a plurality of network element nodes, said cluster having a cluster network address common to said plurality of network element nodes and each network element comprising:
- means for receiving data packets,
- means for determining distribution decisions for at least some of the received data packets according to predetermined criteria,
- means for selecting, based on the distribution decisions, from those received data packets, which are data packets initiating opening of packet data connection to said cluster network address, first data packets for processing in the network element,
- means for maintaining a list about opened packet data connections in the network element, and
- means for selecting, based on said list, from the received data packets second data packets, a second data packet being a data packet relating to an opened connection on said list, for processing in the network element, irrespective whether said predetermined ~~distribution~~ criteria are updated or changed subsequent to opening said connections on the list of the network element,
and wherein entries of said list comprise timing information for determining how long the opened packet data connection is valid and said means for maintaining said list is arranged to
- add an entry representing an opened packet data connection to said list when a first data packet is selected for processing in the network element,
- update said timing information at least when a second data packet is selected, and
- remove an entry from said list, when a predefined time period from the arrival of the latest data packet relating to said entry is exceeded.

Claim 35. (Currently Amended) A computer program component <u>comprising a computer program code means stored on a computer readable medium</u> for a network element, said network element being a network element for constructing a cluster of network element nodes, said cluster having a plurality of network element nodes and a cluster network

address common to said plurality of network element nodes, said computer program
component comprising ~~programs~~ computer program code means for:
- receiving data packets from an operating system,
- determining distribution decisions for at least some of the received data packets
according to predetermined distribution criteria,
- selecting according to said distribution decisions from those received data packets,
which initiate opening of packet data connection to said cluster network address, first
data packets,
- maintaining a list about opened packet data connections based at least on said first data
packets,
- selecting, based on said list, from received data packets second data packets, which are
data packets relating to opened connections on said list, irrespective whether said
predetermined distribution criteria are updated or changed subsequent to opening said
connections on the list of the network element with a result that hash values calculated
from said second packets do not fall into a node-specific set of hash values allocated to
said network element according to said updated or changed distribution criteria, and
- delivering selected data packets to a second computer program component for
processing.

Claim 36. (Currently Amended) A computer program product comprising computer
program code means stored on a computer readable medium for a network element, said
network element being a network element for constructing a cluster of network element
nodes, said cluster having a plurality of network element nodes and a cluster network
address common to said plurality of network element nodes, for performing the steps of:
- receiving data packets from an operating system,
- determining distribution decisions for at least some of the received data packets
according to predetermined criteria,
- selecting, according to said distribution decisions, from those received data packets,
which initiate opening of a packet data connection to said a cluster network address, first
data packets,
- maintaining a node specific list about opened packet data connections based at least on
said first data packets,
- selecting, based on said list, from received data packets second data packets, which are
data packets relating to opened connections on said list,

and wherein said node-specific list comprises timing information for determining how long an opened packet data connection is valid, and said maintaining comprises the substeps of:

- updating said timing information, when a node for processing a second data packet is selected,

- removing an entry representing an opened packet data connection from said node-specific list, when a predefined time period from the receiving of the latest data packet relating to said packet data connection is exceeded, and

- delivering selected data packets to a second computer program product ~~component~~ for processing,
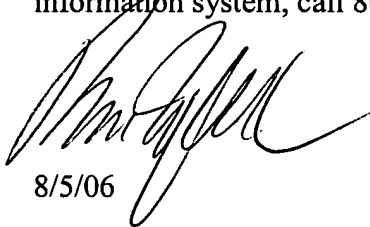
when said program product is run on a computer.

Conclusion

4.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Brian D. Nguyen whose telephone number is (571) 272-3084.

The examiner can normally be reached on 7:30-6:00 Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Wellington Chin can be reached on (571) 272-3134. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

8/5/06

BRIAN NGUYEN
PRIMARY EXAMINER